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*Some recent discoveries of stone implements in Africa and Asia. By Henry Phillips, Jr., A. M.*

*(Read before the American Philosophical Society, May 21, 1880.)*

Within the last few years the science of Archæology has received many additions through discoveries of stone implements and weapons in the cradle lands of the human race. A lithic age (whether exclusively so or not) seems to have existed in the dominions of the Pharaohs, and in the home of the Vedas, as well as in the rest of the habitable world. To exhibit a short résumé of what has been lately found in Asia and Africa is my object this evening.

In the Bulletin of the Egyptian Institute for 1869, '70, '71, there is much interesting and important matter relating to discoveries in Egypt. At the meeting of the Institute held in December, 1869, M. Lepsius stated that, acting upon information received from M. Lenormant, he had visited the place of an alleged find of stone implements in the neighborhood of Thebes. That he had found them in that place by the thousands; that in fact they were scattered in profusion throughout the entire desert. M. Arcelin, a German dwelling in Upper Egypt, reported that he had found similarly formed implements in deposits later than the tertiary period.

At the seance of April, 1870, Dr. Gaillardot referred to the discoveries reported by M. Arcelin at Cairo, of flint implements, of whose origin, use and authenticity, there could not be the faintest suspicion of doubt. These were found by Mariette Bey in the tombs at Saqqarah, together with ornaments formed of cockle shells. It seems, however, that these relics are not of the oldest stone age, but may be as recent as the historical period of Egypt.

In the tombs at Gourmah, which come down so late as the eleventh dynasty, vast quantities of barbs are found, whose points are sometimes of wood hardened by the action of fire, and sometimes are made of sillex or fish bones. It is a very remarkable fact, that in all the remains of Pharaonic antiquity even down to the tombs of the Grecian epoch, no metal arrow-heads have ever been discovered; it is the Grecian sepulchres that are the first to afford bronze points. The Egyptian implements are said to lack the patina which age generally bestows upon genuine implements. This has been urged against them as an argument to prove they were not of the era to which they were supposed to belong. But it is said, that the very oldest of all the primitive sillex implements that have ever been found in Europe are likewise entirely devoid of patination, so that no inference can be drawn from this fact.

Zittel found in the Libyan desert vast numbers of flints which bore the appearance of having been operated upon by the hand of man at a period of great remoteness in antiquity. Many of them were found in the desert about twenty miles west of the Oasis of Achel. Stone implements were used by the ancient Egyptians in the process of embalming, and even to this day are still used as razors.

The existence of those at Helwan, on the Nile, nearly opposite the ruins of

Memphis, first became known about 1872, having come to the notice of Dr. Reil, the director of the Sanatorium at that place. He wrote to the Ethnological Society of Berlin, relating the circumstances attending their discovery, and placed a collection of them in the Boulak Museum at Cairo. "The nature of the materials composing the plateau at Helwan varies from layers of fine mud to beds of coarse, angular débris," writes A. J. Jukes Browne, Esq., in a communication to the Cambridge Antiquarian Society, read at the meeting, held November 12, 1877, "and, in the railway cutting, beds of sand and clay are to be seen banked up against the ridge of limestone which rises up out of this valley. "The surface of the plateau is generally composed of loose sand, or stones and sand in place, compacted by saline deposits from the thermal waters which here permeate the soil; and it is upon these surfaces, worn into irregular ridges or hollows, that the flint flakes and tools are generally to be found. They do not occur below the surface except where they have been covered up by subsequent sand drifts. In excavating these sand drifts, implements have been met with at various depths, but none have ever been found in the beds of mud and sand which have been brought down by the streams and are exposed in the cuttings and diggings alongside of the railway. The normal position of the implements is, therefore, upon the surface of the plain; but it is to be noticed that they chiefly occur overlooking the greater depressions where the hardened ground may have existed as a surface for many hundreds, or perhaps thousands, of years; and there are at least five of these spots where the flakes and implements occur in such abundance as to suggest the idea that these were the actual localities where the work was carried on, the very manufactories where the tools of the period were made. The probability that such is the case is increased by the fact that the form of the flakes and the nature of the instruments differ considerably at each of the five places referred to. \* \* \*

"The principal forms that were found, were lance-heads, arrow-heads, saws, long scrapers, thick scrapers, short knives, worked flakes, large flakes, small flakes and one triangular tool. No heavy weapons were found at Helwan, such as hammers, adzes, &c., but parallel cases have occurred where assemblages of small flakes and scrapers have been found at certain spots as if manufactured there, while there is an entire absence of celts, and the larger kind of instruments. Mr. Sketchley states that there is a great resemblance in shape between the Egyptian and the small Suffolk implements. The Helwan lance-heads are good specimens of flint work, the whole surface being worked over, and the sides chipped into serrated edges; they are about three inches long, and the base is squared and thinned off for insertion in the handle. The best arrow-heads are also well made, being of an elongately lanceolate form, the tag end exhibiting two small nicks for the purpose of binding it on to the shaft, in the same way as some of the American arrow-heads were secured.

"But the saws are the most curious and interesting of the Helwan implements; they vary from two to four inches in length, with one side or edge

nicked into wide or narrow teeth, and in some cases cut into a graduating series from large to small teeth. The teeth are often much polished, and sometimes more or less broken as if by dint of hard service, while in some of them both sides are worked into serrations, one edge being more broken than the other, as if it had been used up, and the other side had been chipped out in order to refit the instruments for service.

"The knife-like implements occurred in special abundance, varying in length from one to nearly two inches, but the greater number being about an inch and a quarter long. A few of them are almost semi-lunar in shape, and are similar to those used by the Esquimaux; in the rest, one end is left blunt, and the other brought down to a point, which is generally very sharp.

"Flakes were found at many places in great profusion, together with many of the cores from which they were struck. Almost all the flakes seem to have been utilized, and those that could not be converted into saws or knives were chipped, and evidently used in some way or other.

Mr. Browne has given a very long description of these implements from which I have extracted the foregoing statements. His paper is full of valuable matter, and deserves a careful perusal. He afterwards enters into the discussion of the problem of the antiquity of these flakes and implements, and takes the ground that their occurrence on the surface in no wise prevents them being referred to a remote age, for the reason that in Egypt the surface has probably remained unchanged for a very long period of time. In tombs of the era of the Ptolemies, flint weapons have been discovered, but these cases, Mr. Browne states, are very rare, and those which he saw in the Boulak Museum, "are different in type, and more modern-looking than the Helwan flints. Others which have been found in the neighborhood of Thebes are of a more antique and palæolithic appearance. Sir John Lubbock and others are of the opinion that the implements from Thebes are prehistoric, even as regards a land like Egypt, whose known annals extend backwards over so many thousand years."

The transition from Egypt to Palestine is not an abrupt one, and in the latter country relics of the stone age were discovered, in 1870, at Beth Saour, by Mr. Louis Lartet. Large quantities of stone implements of all kinds were found at this place, of which the bulk were fashioned into the form of knives. One notable exception, however, was a discoid flint resembling the usual European palæolithic type; there were also a needle and an arrow-point formed of bone.

Mr. Lartet is led to believe, from his observations of the locality and of the nature of the find, that there existed formerly at this place, a manufactory, where the fabrication of flint weapons and implements was carried on, such as has been found to exist in many parts of Europe. Since 1870, there have been found at Beth Saour, in addition to the types already spoken of, many knives, scrapers, large graters, bodkins, saws very regularly toothed, chisels which had been polished on stone, and hatchets. With these were mixed deposits of yellow pottery, very roughly made by hand and illy

baked, resembling in the bands, stripes, dots, &c., which constituted their ornamentation, the work of the neolithic period.

In the Troad in Asia Minor, at a town known as Hissarlik, very numerous stone implements have been discovered, of types and shapes analogous to those usually met with in Europe, and are all fabricated of the same rocks that occur in Turkey, Greece and the Archipelago. For example :

*Serpentine* from Megara, Corinth, Delphos, &c.

*Jadeite* from Thebes, Althea, Laconia, &c.

*Dionite* from Sparta, Kleone, Amphyceà, &c.

*Amphibolites* from Lemnos, Archæa and the Peloponnesus.

*Syenite* from Mycenæ.

At this latter place Dr. Schliemann reports the discovery of thirty-five arrow-heads of obsidian whose shape was similar to those used in North America.

It is stated that in the museum of the evangelical seminary at Smyrna, there are sixty different implements of stone which have been found in Lydia and Phrygia, of which some were polished, others not. The forms of the hatchets and of the hammers were similar to those previously discovered in Greece. Mr. Pappadopoulos avers that the whole region of Iconium is rich in relics of the stone age, and also that there are abundant vestiges in various lakes of Asia Minor of lacustrine habitations, not unlike those heretofore known in Switzerland.

In Northern Africa stone implements have been found, especially at Khenchela in Algeria. Here M. Jullien discovered quantities of worked flints, generally of large size, although, for the most part, broken. In this instance the finds occurred on the surface of the soil.

Signor Bellucci found in thirteen different portions of the realm of Tunis, no less than 2982 stone implements, being knives, arrow-heads, discs, sling-stones, scrapers, bodkins, beaters, &c. From the surroundings he drew the inference that a workshop for manufacture of stone implements had existed near Tunis.

Messrs. Fraas and Zittel report, severally, similar discoveries in Libya and the Libyan desert. Here the implements were associated with the remains of quaternary animals. Mr. Fraas attributed the worked stones which he found in Libya to the hand of man.

A large collection of stone implements from the Cape of Good Hope, came, a few years since, into the possession of the learned Dr. John Evans, F.R.S., F.S.A., &c., of Hemel Hempstead, England, of which he has been kind enough to write for me the following description : " They appear to be of two different ages, some being apparently palæolithic and closely resembling in form those of the European river gravels and those in quartzite from the latente deposits of Madras ; and others neolithic. Among these latter are numerous flakes of basalt, probably lance-heads, and some well wrought small spear-heads in flint. There are also hammer stones, both perforated and with recesses on one or both sides (possibly these may be more of the nature of mortars), and the usual 'digging stones' for weight-

ing pointed sticks. The palæolithic implements, if such they really be, are scarce. I have one very fine specimen from Proceso Fountain, Victoria, West. It is not of flint but formed of some hard metamorphic rock."

On the 30th of November, 1878, Mr. V. Ball read before the Royal Irish Academy, an essay "on the forms and geographical distribution of stone implements in India," in which country he had resided several years. He goes into the subject at considerable length discussing the various finds in (1) Madras, (2) Hyderabad and the Berars, (3) the Central Provinces and Bandelkhand, (4) Rajputana and Central India, (5) Bombay, (6) Sind and Beluchistan, (7) Bengal and Orissa, (8) Assam and adjoining countries, (9) Burmah, (10) Andaman Islands, (11) Sumatra and (12) Java. As a rule these implements are of the usual types, some, however, in Bandelkhand being evidently symbols of the *Lingam*, some being perforated stones; sometimes they are "well-shaped knives," discoidal objects, flakes and arrow-heads, all palæolithic (only one *polished* celt having been found in the Madras presidency), and a very few polished celts approximating to the unshouldered Burmese forms have been discovered in Assam. In the Burmese implements, however, the cutting surface has a chisel-like edge, while the Assamese tools have the edges ground down on both sides. In the Andaman Islands at the present day, Mr. Ball states, there inhabit a race of people who manufacture flakes from flint pebbles. "The Burmese call these implements *mo-jio*, thunder chain, or thunder-bolt, and believe that they descend with the lightning flash. It is supposed to possess many occult virtues, one of the chief of which is to render its wearer invulnerable, and many an unlucky *mo-jio* has succumbed to the popular test, which is to wrap it in a cloth and fire a bullet at it at short range. If the man misses the cloth the authenticity and power of the charm is at once established; if the stone is fractured it is held not to be a real *mo-jio*. Other less severe tests are also applied. Fowls, it is supposed, will not venture near rice on which a real *mo-jio* is lying; fire will not consume a house that contains one; a plantain tree cut down with one will not sprout again; and last, but not the least in esteem, the owner of a real *mo-jio* can cut a rainbow in half with it."

In Java a considerable series of chipped implements and polished celts has been found, "which have been reported on by a commission appointed for the purpose by the French Academy of Science."

Mr. Ball (p. 399) calls particular attention to a ring stone, too heavy for a spindle whorl or net sinker, and which he believes was really a weapon of offence to be grasped in the hand and used, as he expressed it, as a sort of "knuckle duster," in an encounter between men and wild animals. The chief point of interest about it is its very close resemblance to forms which have not uncommonly been met with in Europe, and likewise in Pennsylvania, Virginia and other parts of North America.

Accompanying Mr. Ball's paper is a map of the geographical distribution of stone implements in India. "The chipped quartzites occur throughout a vast area north and south from Sangor to Madras, east and west from Raniganj in Bengal, to Neemuch in Rajputana. Even

in far distant Java implements of a somewhat similar character have been met with; a fact of considerable interest pointing to a prehistoric connection. Flakes and cores are limited in their distribution to the area which extends north and south from Kerowlie in Rajputana, to Peyton on the Godaveri, in Bombay, and east and west from Singhbhum, in western Bengal, to Sukkur on the Indus, in Sind, and still further even to Gwadar, in Beluchistan. The polished celts extend from Upper Assam to Singhbhum, in Bengal, and from the Irawadi Valley, in Burmah, to Jabalpur, in the Central Provinces."

The map is colored to show these distributions respectively for each class in the order above referred to, light pink, light purple, and light blue. Mr. Ball offers two theories to account for this distribution of flint implements; one, that from a central interior point spread forth successive waves of emigration at different stages of civilization; the other, to which he inclines, was that the central area was a point of convergence rather than of divergence, basing his opinion on the fact that the manufactures become more abundant, and exhibit greater skill in proportion as we recede from this central area. A fact tending, in his judgment, to corroborate the notion that India was once an island, which gradually arose from the ocean at a period subsequent to its first being inhabited; that as the central parts of the country became accessible to wanderers from the surrounding quarters, with a knowledge of their respective arts, were thrown more in contact with each other, becoming the ancestors of some of the widely distinct races now living in India." Mr. Ball adds to his paper a list (covering twelve pages 8vo), of the localities in India where ancient stone implements have been discovered, and I would call your attention to the whole article from which these extracts (referring to India) have been taken as being carefully written and of great interest and importance. (Proceedings of the Royal Irish Academy, Dublin, Vol. 1, Ser. ii, No. 13, April, 1879.)

In the opinion of some writers of prominence and ability, the very existence of a stone age, *per se*, has been doubted, and the suggestion thrown out, which is plausible enough, that lithic implements, &c., were used in connection with others of metal which have not survived to modern times. It is not my wish to enter into any controversy respecting this much vexed question. My only object in the present instance has been to gather into one paper valuable facts, at present dispersed and scattered.

[NOTE.—At the Congress of Archæologists, in 1872, the Marquis de Vibray, exhibited a collection of stone implements, &c., found in Japan, amounting in all to sixty-seven. Of the hatchets many were perforated, and the types all bore resemblance to similar ones found elsewhere. The chief material of which they were formed was *jade*, but other stones were also used, including *obsidian*. The age of these objects could not be satisfactorily determined, nor what the relative civilization of Japan was in what seemed to be a polished stone age.

Within the past year (1879) dolmens have been opened in Japan in which stone arrows, &c., have been found. It is stated that the shell mounds at Amori contain bones of monkeys, deer, boars, wolves, and dogs, with not a few remains that plainly point to the former prevalence of cannibalism. In Cochin-China, the French aggressions have led to the discovery of stone implements, undoubtedly fashioned by the hand of man, among pottery, shells, and human and animal remains.]